Anti-IP3 receptor Antibody [PSH14-18]

HA601456

Product Type:	Recombinant Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 313 kDa
Clone number:	PSH14-18

Description: Inositol 1,4,5-trisphosphate-gated calcium channel that, upon inositol 1,4,5-trisphosphate binding, mediates calcium release from the endoplasmic reticulum (ER) and participates in calcium oscillations. Undergoes conformational changes upon ligand binding, suggesting structural flexibility that allows the channel to switch from a closed state, capable of interacting with its ligands such as inositol 1,4,5-trisphosphate and Ca2+, to an open state, capable of transferring calcium ions across the ER membrane (By similarity). Cytoplasmic calcium, released from the ER, triggers apoptosis by the activation of CAMK2 complex. Part of a complex composed of HSPA9, ITPR1 and VDAC1 that regulates mitochondrial calcium-dependent apoptosis by facilitating calcium transport from the ER lumen to the mitochondria intermembrane space thus providing calcium for the downstream calcium channel MCU that directly releases it into mitochondria matrix. Involved in the regulation of epithelial secretion of electrolytes and fluid through the interaction with AHCYL1. Regulates fertilization and egg activation by tuning the frequency and amplitude of calcium oscillations.

Immunogen: Recombinant protein within Rat IP3 receptor aa 2591-2750 (Cytoplasmic).

Positive control: Mouse brain tissue lysate, mouse brain tissue, rat brain tissue.

Subcellular location: Endoplasmic reticulum membrane, Cytoplasmic vesicle, secretory vesicle membrane, Cytoplasm, perinuclear region.

Database links: SwissProt: P11881 Mouse | P29994 Rat

Recommended Dilutions:

WB	1:5,000
IHC-P	1:1,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

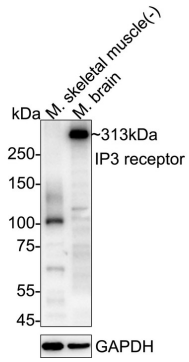

Fig1: Western blot analysis of IP3 receptor on different lysates with Mouse anti-IP3 receptor antibody (HA601456) at 1/5,000 dilution.

Lane 1: Mouse skeletal muscle tissue lysate (negative) (40 µg/Lane)
Lane 2: Mouse brain tissue lysate (40 µg/Lane)

Predicted band size: 313 kDa
Observed band size: 313 kDa

Exposure time: 59 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA601456) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

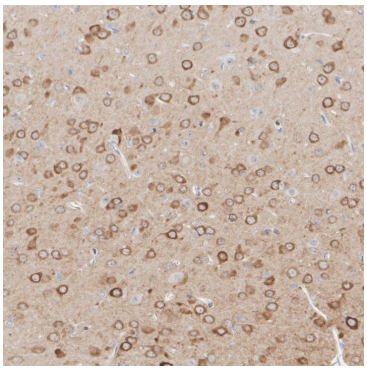

Fig2: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Mouse anti-IP3 receptor antibody (HA601456) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA601456) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

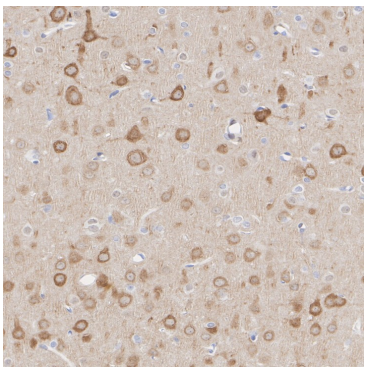

Fig3: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Mouse anti-IP3 receptor antibody (HA601456) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA601456) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Wu L et al. Type 3 IP3 receptor: Its structure, functions, and related disease implications. Channels (Austin). 2023 Dec
2. Dridi H et al. IP3 receptor orchestrates maladaptive vascular responses in heart failure. J Clin Invest. 2022 Feb